

### **REMARKS**

Claims 1-5, 7-15, 18, 19 and 21-25 remain pending in this application. Further reconsideration of this application is requested.

#### **Obviousness Rejections**

The obviousness rejections of claims 1-5, 7-15, 18, 19 and 21-25 are again respectfully traversed. The Office action alleges that it would have been obvious to modify the Zeng reference to couple photodetectors to at least one end of the stack of detector elements 106 as suggested by Miraldi, in reliance on the assertion that "Zeng leaves the specific arrangement of the optical communication of the appropriate photodetector to the stack of bar detector strips 106 as a choice within the ordinary skill in the art (column 7, lines 34-35)."

The proposed modification, however, would not have been obvious to one of ordinary skill in the art, as further explained below. In order for a proposed modification of prior art to be obvious under 35 U.S.C. § 103, there must be some teaching, suggestion or motivation within the prior art itself for one of ordinary skill in the art to have made the modification. In re Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002) (the factual inquiry whether to combine references must be based on objective evidence of record); In re Rouffet, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998) (the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination).

The Office action dismisses Applicant's response as "attacking references individually." However, it is not improper to discuss what each prior art reference individually discloses to those skilled in the art, in establishing the lack of any teaching, motivation or suggestion in the prior art as a whole to make a proposed combination of prior art references.

Miraldi discloses in Fig. 1 the use of a single detector 12, the components of which are shown in Fig. 2 and the physical configuration of which is shown in Fig. 7. As disclosed, the detector includes a rectangular scintillation crystal 86 mounted adjacent to a collimator 88, with photomultiplier tubes 96 and 98 mounted at each end of the scintillation crystal. Thus, Miraldi is not concerned with multiple scintillation elements

located between multiple slats as disclosed by Zeng. Miraldi thus does not and cannot provide any suggestion to those skilled in the art as to photodetector placement in the apparatus of Zeng.

In particular, Zeng discloses in Fig. 4 a slat collimator 100, which is interposed between an imaging object and a detector head 22. Specifically, the slat collimator is mounted on a radiation receiving face 23 of the detector head 22 as shown in Figs. 5A-5B (see also Fig. 8, showing scintillation elements 106 mounted on detector head 22). In particular, Zeng contemplates an embodiment wherein a single scintillator element spans across all of the collimator slats 102 (see col. 7, ll. 48-51). From the teachings of Zeng, it is apparent that photodetector elements must be located within the detector head 22, and not left as a matter of choice as asserted in the Office action.

First, Zeng at col. 7, lines 34-35 simply discloses that the detector elements 106 are fabricated from scintillation materials in optical communication with a photodiode or other appropriate photodetector. Such disclosure does not equate to a suggestion by Zeng that one of ordinary skill in the art should experiment with the placement of the photodetectors. Plainly, the disclosed embodiments wherein a single scintillator element spans across all of the collimator slats, or wherein plural scintillator elements each span multiple collimator slats, could not perform correctly with photodetectors mounted as shown by Miraldi for a single one-dimensional scintillation crystal. Additionally, even in the embodiment of Zeng where a scintillation element 106 is provided for each gap between collimator slats, as shown in Figs. 5A-5B and 8, photodetectors are required to be located in the detector head 22.

Second, as pointed out above, Zeng clearly discloses a radiation receiving face 23 of the detector head 22, as shown in Figs. 5A and 5B. Inasmuch as the slats 102 and scintillation elements 106 are located above the radiation receiving face 23, those of ordinary skill in the art would have been led by Zeng to understand that the radiation receiving face 23 receives light radiation from the scintillation elements 106 and therefore must house the photodetector elements.

Given the stark differences between the one dimensional single collimated scintillation crystal detector of Miraldi and the planar detector heads 22 of Zeng, one of


ordinary skill in the art would not have been motivated by the disclosure of Miraldi to have modified Zeng as proposed.

Iwanczyk et al. fails to cure the basic deficiency in the proposed combination of references. While Iwanczyk shows the use of a silicon drift photodetector (SDP), such is also mounted as shown in Fig. 1 along the long dimension of a scintillator 37. Consequently, Iwanczyk also fails to disclose or suggest a gamma camera as set forth in the claims pending in the present application.

**Conclusion**

In view of the foregoing, claims 1-5, 7-15, 18, 19 and 21-25 are submitted to define subject matter that is patentable over the prior art of record. Further and favorable reconsideration of this application and the issuance of a Notice of Allowance are requested.

Please charge any fee or credit any overpayment pursuant to 37 CFR 1.16 or 1.17 to Deposit Account No. 19-2179 in the name of Siemens Corporation.

RESPECTFULLY SUBMITTED,					
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